ON GEOMETRIC DISSECTIONS AND TRANSFORMATIONS.

By *Henry Perigal, F.R.A.S., &c.*

" The present series of papers consist chiefly of notes and " diagrams extracted from my note-books and sketches made " during the last forty years. I have devoted much time and " thought to the solution of geometric theorems and problems " by dissections and transpositions: viz. in proving the equality " of areas in equivalent rectangles, &c., and investigating how " the figures could be best dissected, so that their component " parts might be fitted together in either form; and I have " often contemplated proving all the suitable Theorems and " Problems in Euclid by such dissections and transpositions: " so as to render them self-evident by ocular demonstration. " I worked on paper ruled all over in small squares, which " I found useful in facilitating dissections; and I have always " had a fancy that the ancient Egyptians and early Greek " geometers adopted some such expedient in their geometrical " researches. So that I deem it probable that the property " of the right-angled triangle may have been discovered by " similar means; and the solution I hit upon forty years ago " was perhaps the very one discovered forty centuries ago, " and re-discovered by Pythagoras nearly twenty centuries " afterwards; and not unlikely, as was also the case with me, " in the endeavour to find geometrically a square demonstrably " equal in area to a circle by dissection and transposition."
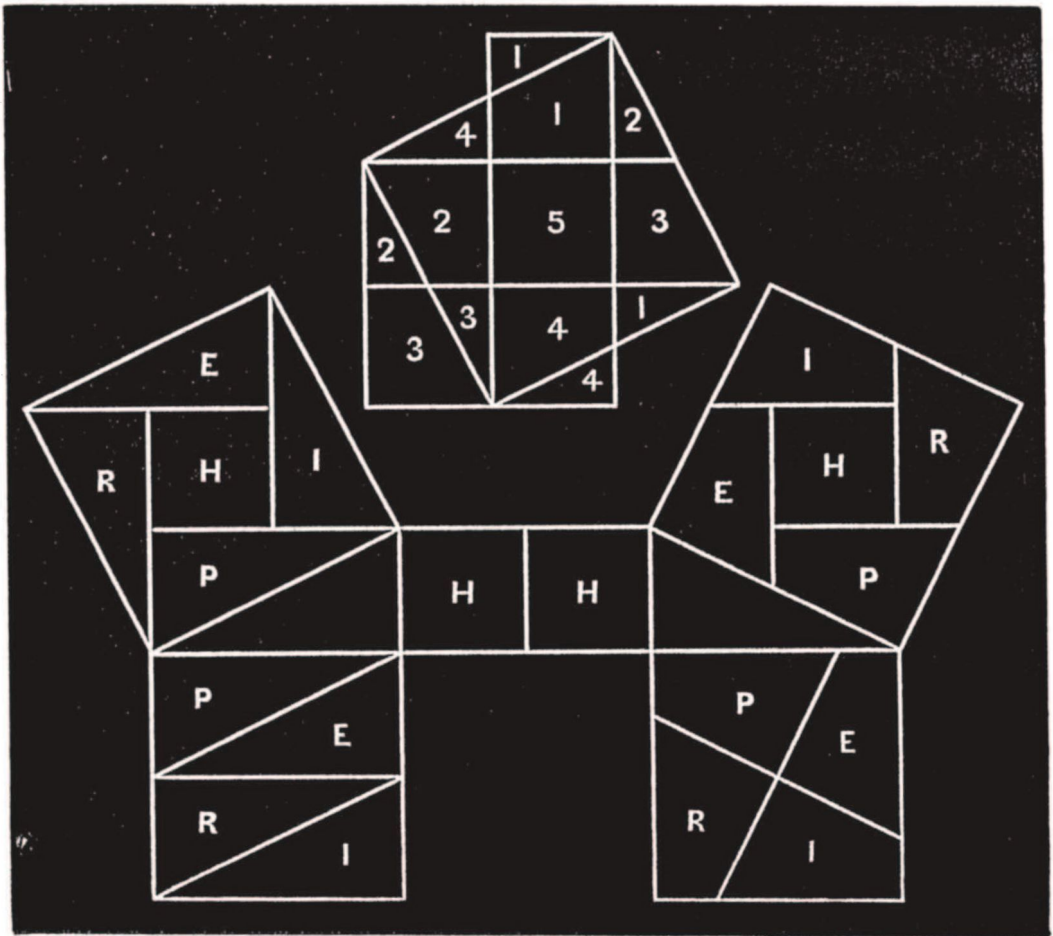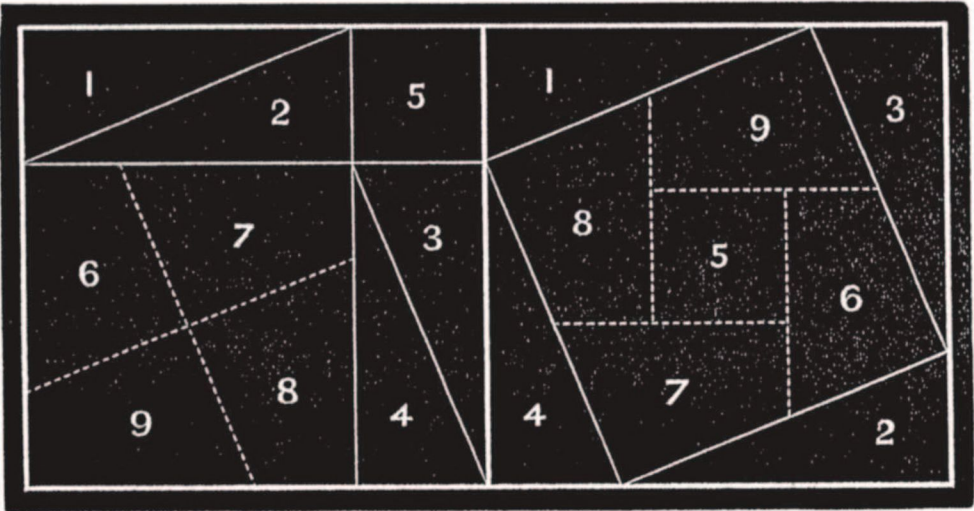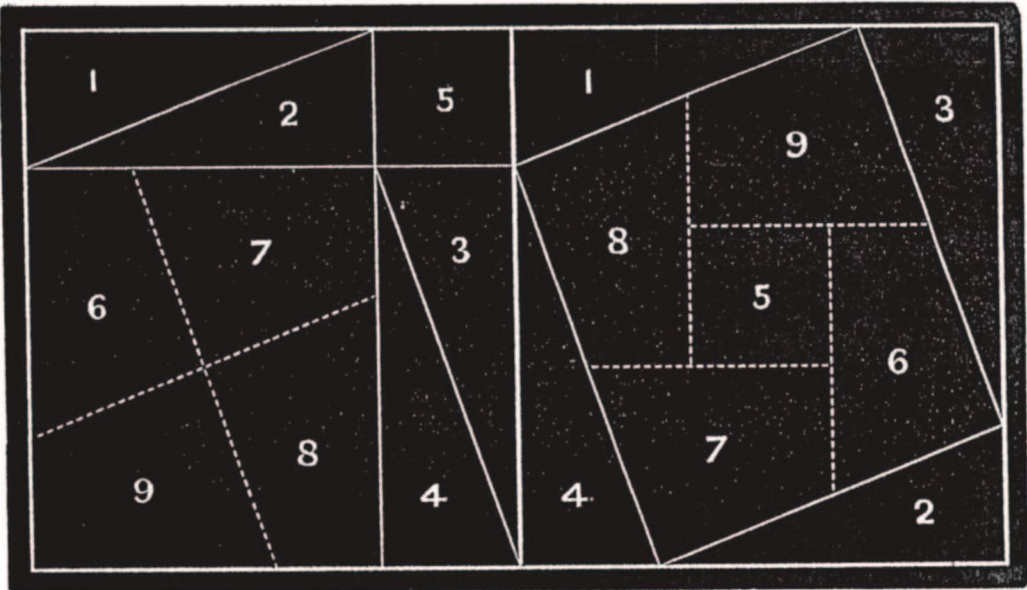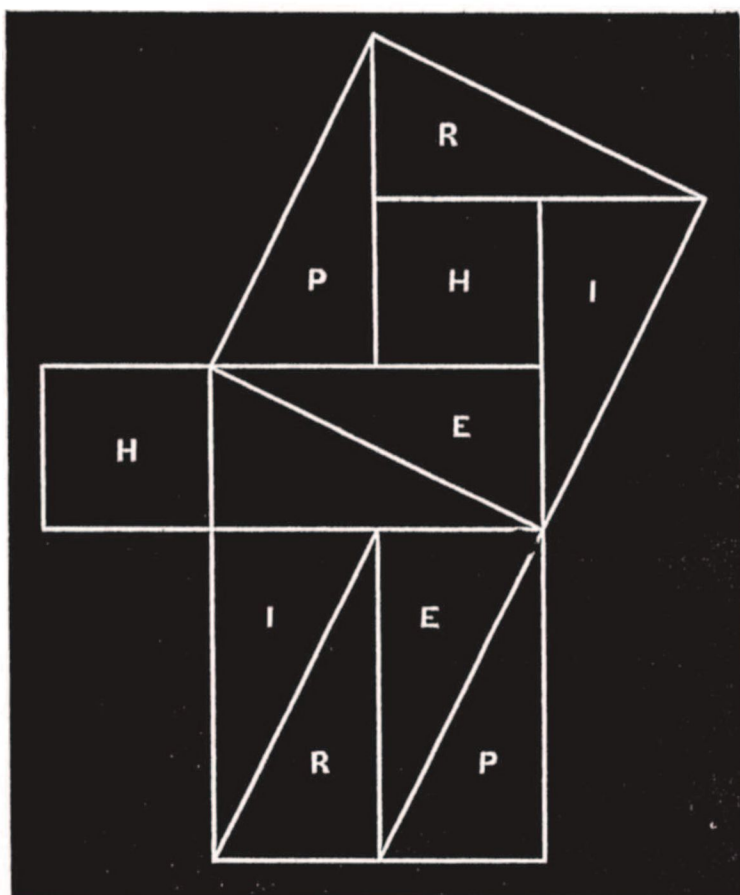
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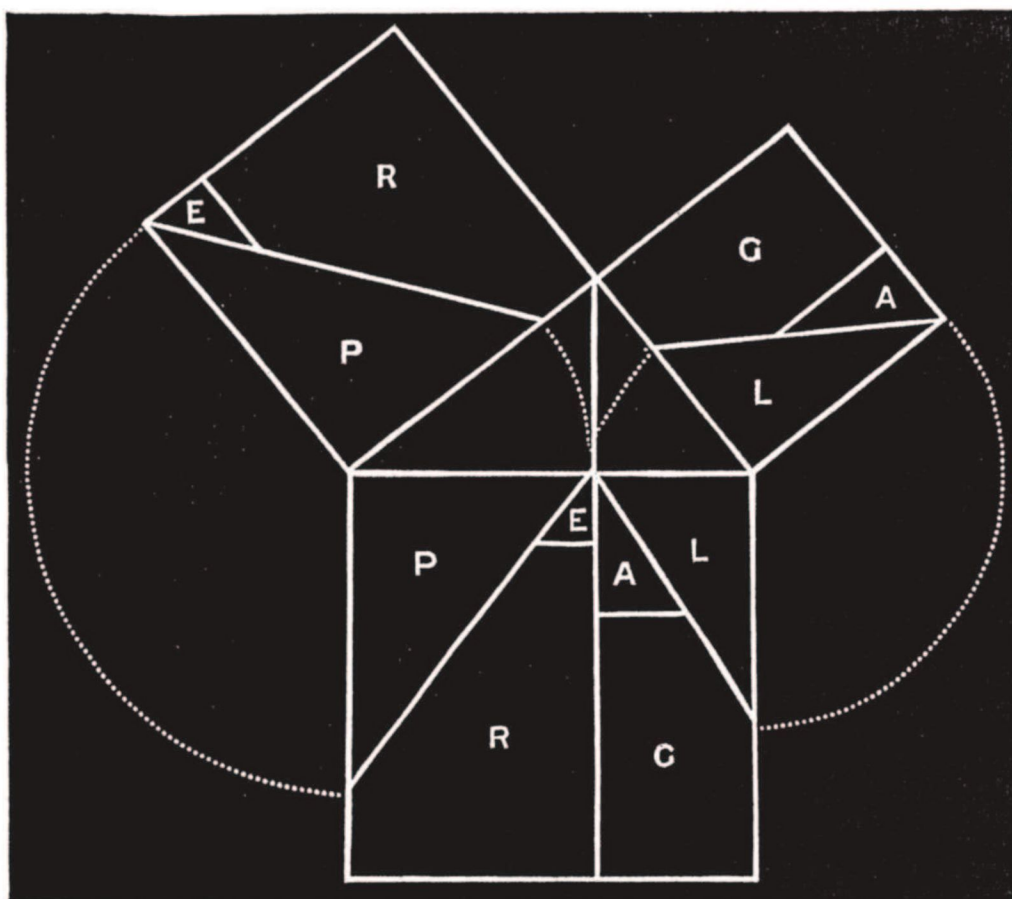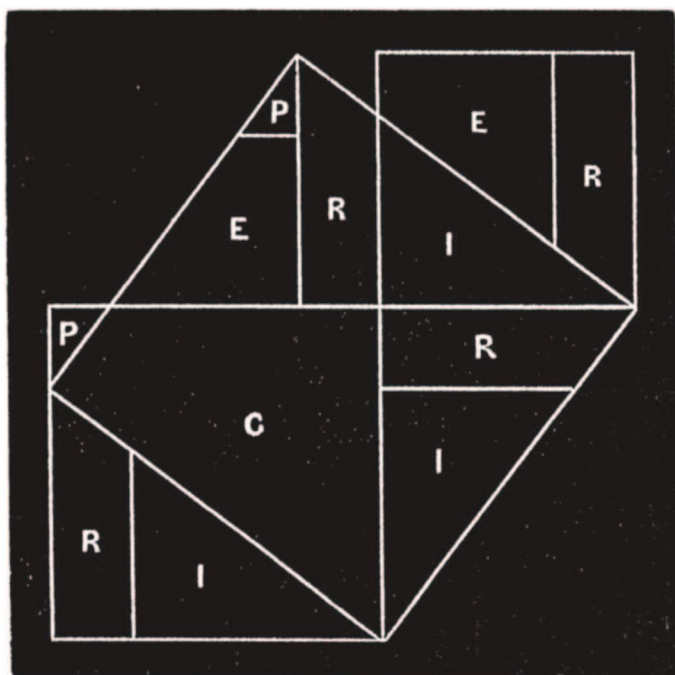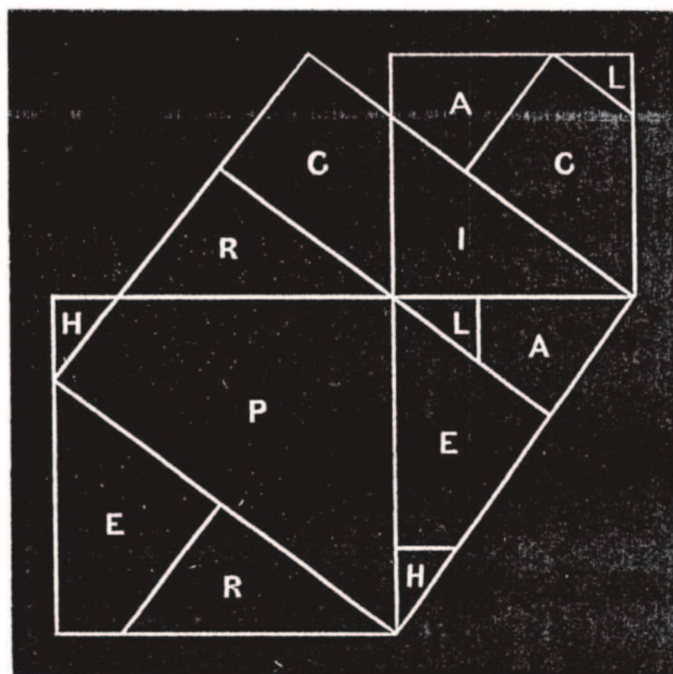
GEOMETRIC DISSECTIONS

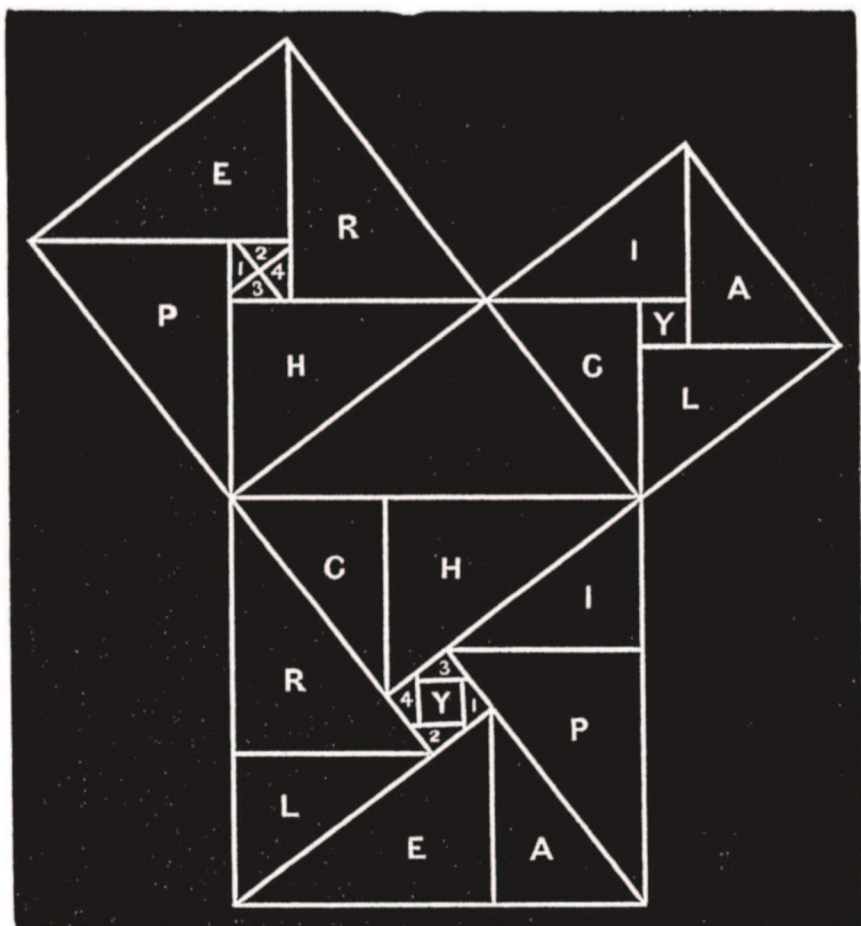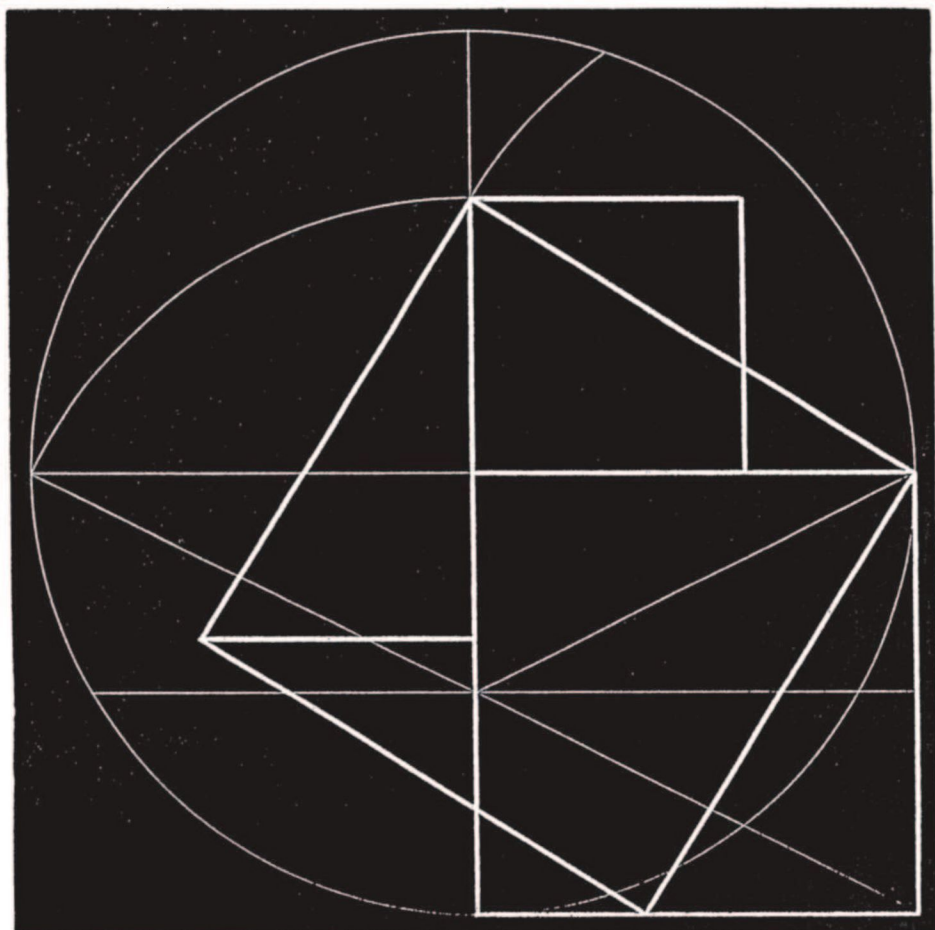AND

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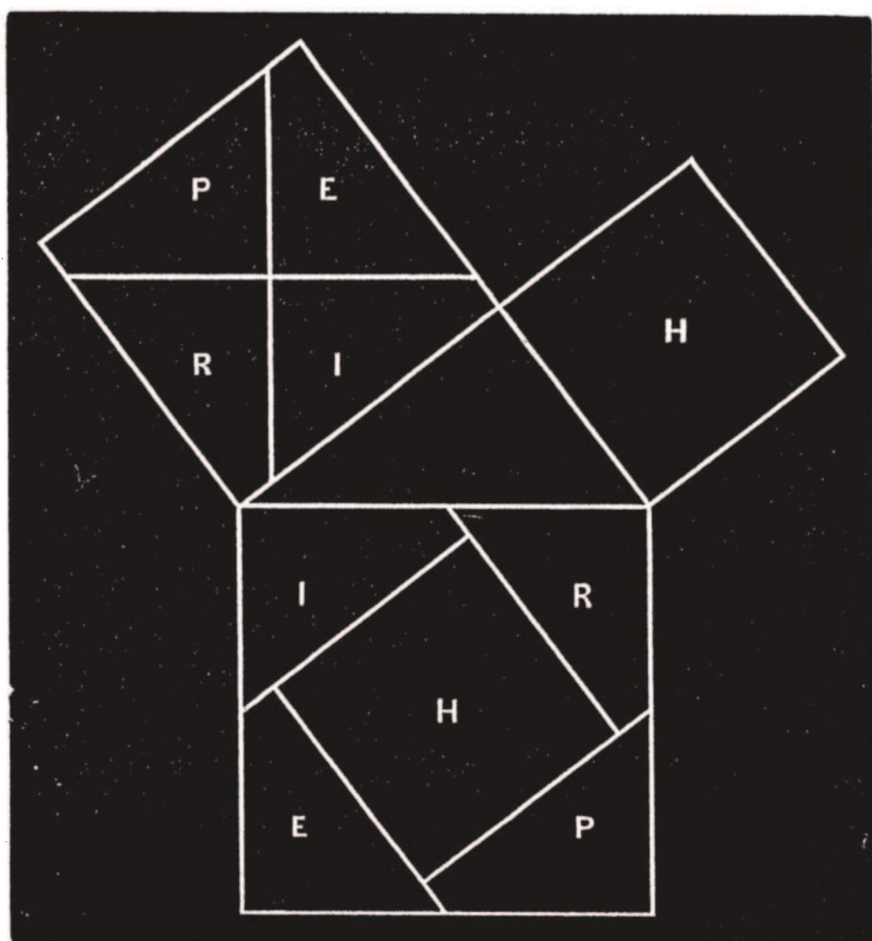
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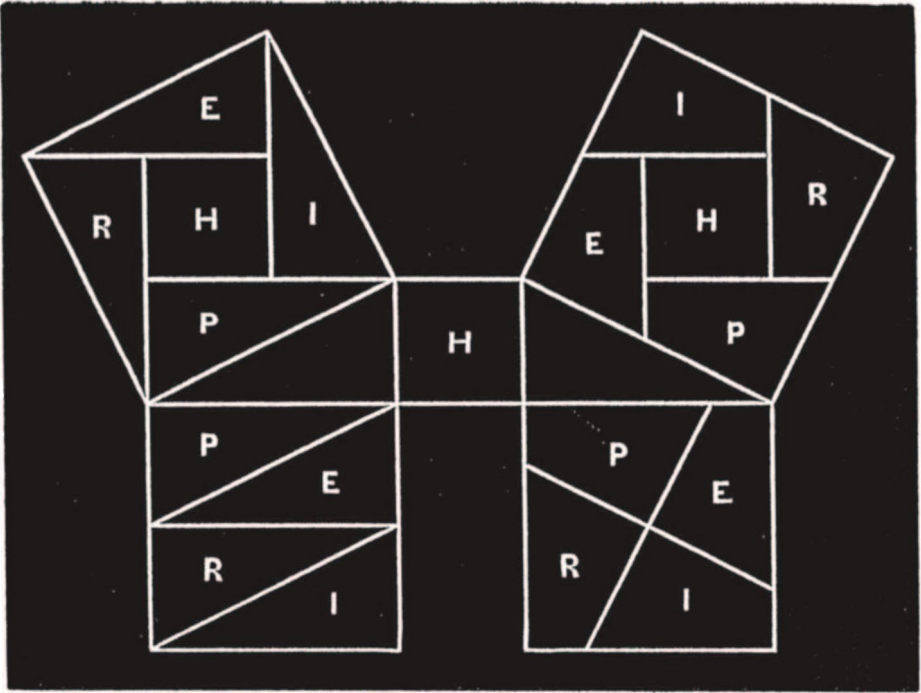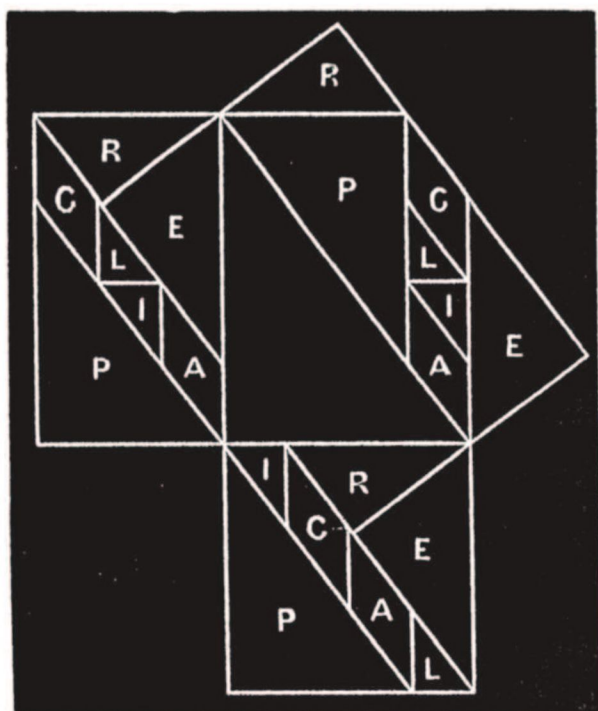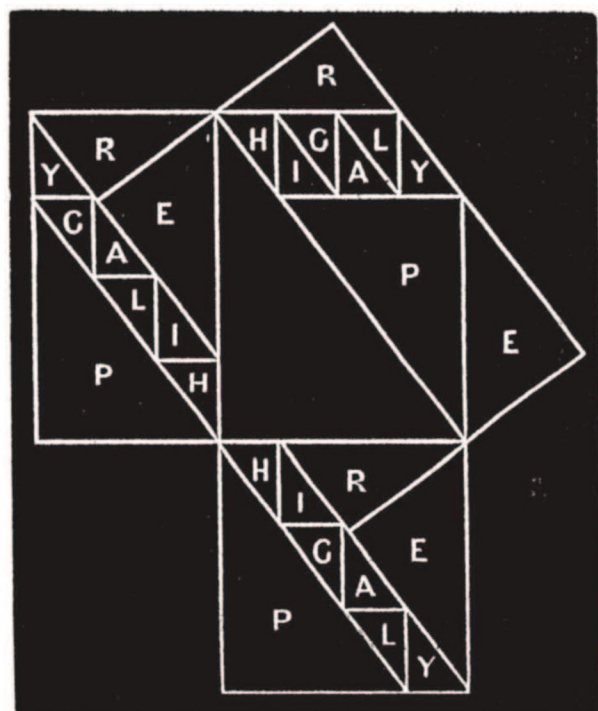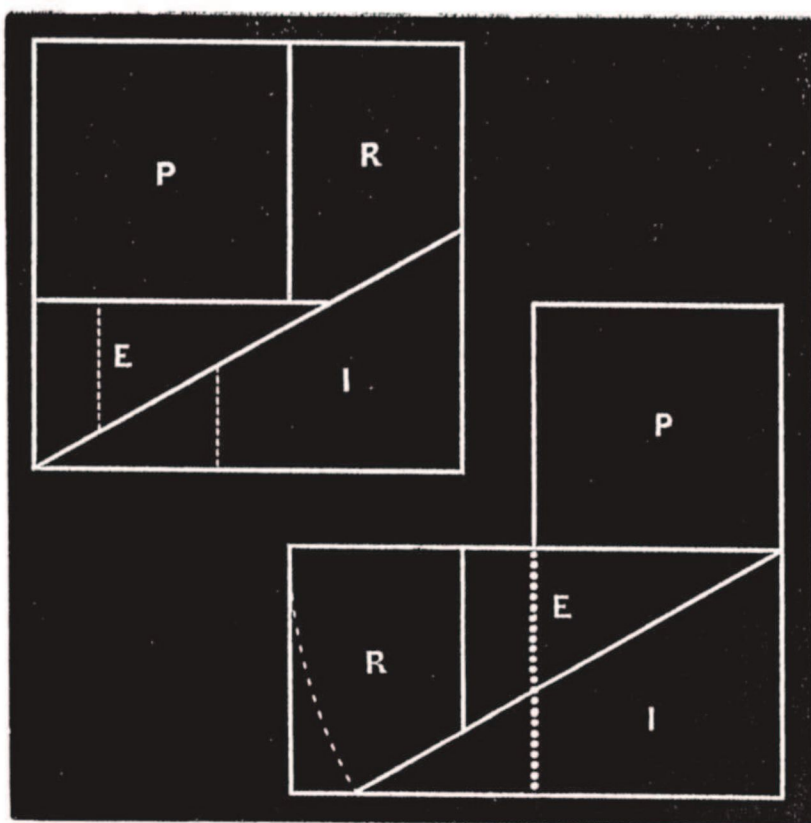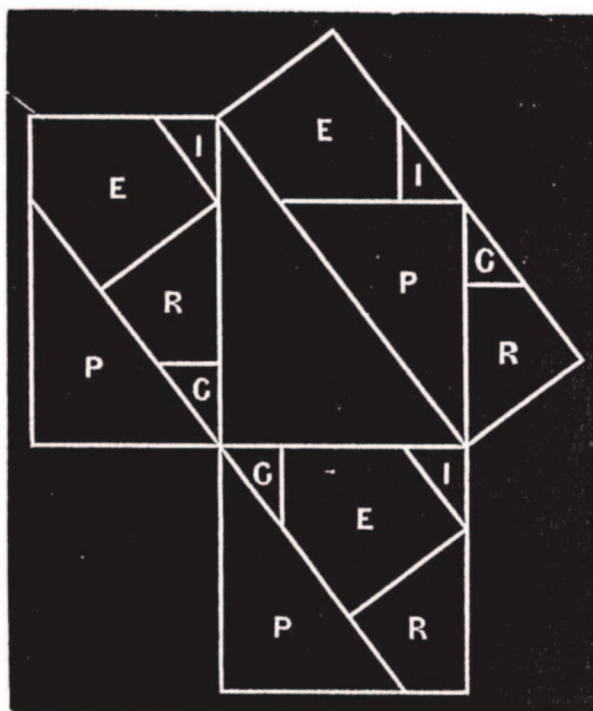
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